

REMARKS

Claim 1 has been amended to more clearly highlight the invention by defining arm 3 as arranged for rotation about its longitudinal axis A, with a second of the arms 7 rotatably arranged around a second axis B, and cabling extending along the first and second arms. And, supporting device 8 is claimed as comprising an auxiliary arm 10.

Claim 3 has been amended to avoid the noted indefiniteness. Claim 7 has been amended to likewise avoid the noted indefiniteness by defining a method of holding and stretching cabling in a manipulator which comprises, etc., followed by the recitation of the method comprising the steps of arranging, adapting and providing.

Claims 1 to 4 and 7 to 9 stand rejected as fully met over the Suzuki et al. U.S. patent 4,529,352. Reconsideration of the rejection and allowance of the claims is respectfully requested on the grounds that the rejection under 35 U.S.C. 102(b) is improper for reasons which follow.

The patent to Suzuki discloses a cable support of a robot, the object of which is to eliminate the stress and the interference to the operating arms and the working tool. This objective is achieved by arranging a movable supporting arm 3(a) on the wrist side of upper arm 13. The Suzuki robot is, however, not an anthropomorphic robot with a five axis only arrangement. Thus, the upper arm of Suzuki does not rotate about its longitudinal axis. The problem solved by the present invention therefore does not exist in the Suzuki robot, much less the solution to that problem as in the invention. The examiner takes the position that Suzuki discloses a supporting arm with an attachment rotationally arranged around a third axis and that

this axis and the attachment are positioned on either side of the longitudinal axis of the upper arm. The contrary is true. Suzuki does not in fact disclose such an arrangement. The axis is merely crossing the longitudinal axis. The examiner also states that the auxiliary arm is arranged on the second arm, when in fact it is not. The auxiliary arm is arranged on the first arm.

The Court of Appeals for the Federal Circuit has made it clear in its opinions in which it consistently holds that the claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. For the foregoing reasons it can be seen that Suzuki utterly fails to disclose each and every element as set forth in claims 1 to 4 and 7 to 9. The rejection should be withdrawn.

The remaining claims 5, 6 stand rejected as unpatentable under 35 U.S.C. 103(a) over Suzuki in view of Kizer, U.S. 5,593,265. Reconsideration and withdrawal of the rejection is likewise respectfully requested for the reasons which follow.

The Kizer patent discloses a quick connect rotary fastener device, the object of which is to releasably secure two components in face-to-face blind contact. To achieve such objective the fastening device comprises an outer cylinder, an inner rotor and a spiral winding spring offering a torsional force on the rotor. The rotor has two lugs at its lower end for interaction with an object to be fastened. This is simply a locking device and has nothing to do with robots.

The examiner takes the position that it would be obvious that the locking device of Kizer belongs in the art of robotics. It does not. It is not likely that a person having ordinary skill in this art of robotics would look for a solution to the problem concerning a cabling for a robot by visiting the disclosure of Kizer located in an area

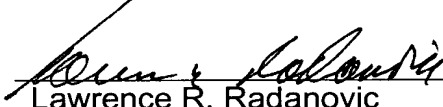
outside the robotics field. Since Suzuki fails to disclose neither the problem nor the solution to the problem as in the invention, as pointed out hereinabove, the Kizer reference likewise fails to disclose or teach or give motivation to one having ordinary skill in this art to combine teachings which would supply the deficiencies of Suzuki. As consistently held by the Court of Appeals for the Federal Circuit, to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. Since Suzuki fails to disclose either the problem or the solution as in the invention, it is submitted that a *prima facie* case of obviousness has not been established in the rejection.

It is therefore respectfully requested that claims 1 to 9 be allowed so that the entire case may be passed to early issuance.

Respectfully submitted,

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VERSION OF CLAIMS SHOWING THE CHANGES MADE THEREIN

APPLN. SERIAL NO. 09/902,536

1. (Twice Amended) A manipulator comprising a plurality of mutually movable arms, a first of said arms being arranged [around] for rotation about a first longitudinal axis (A) thereof and a second of said arms being rotatably arranged around a second axis (B), cabling extending along the first and second arms which are mutually movable and a supporting device which supports a part of the cabling extending between the first arm and the second arm, said supporting device comprising a supporting arm which is rotatably arranged around a third axis (C) and is arranged at the first arm, and a first attachment, arranged at an outer end of the supporting arm and surrounding the cabling, wherein the first attachment and the third axis are arranged on opposite sides of the longitudinal axis of the first arm, the supporting arm being arranged to exert a resilient force in the longitudinal direction of the cabling, and the supporting device comprising an auxiliary supporting arm with a second attachment arranged at the second arm.

3. (Twice Amended) A manipulator according to claim 1, wherein the auxiliary arm is arranged at [the] a turning disc of the manipulator.

7. (Twice Amended) A method of holding and stretching cabling in a manipulator [comprising] which comprises a plurality of mutually movable arms, a first of said arms being rotatably arranged around a first axis (A) and a second of said arms being rotatably arranged around a second axis (B), cabling extending along the arms which are mutually movable and a supporting device which supports a part of the cabling extending between the first arm and the second arm, the supporting device comprising

a supporting arm which is rotatably arranged around a third axis (C) and is arranged at the first arm, and a first attachment, which surrounds the cabling, is arranged at the outer end of the supporting arm, the method comprising the steps of arranging the first attachment and the third axis on opposite sides of the longitudinal axis of the first arm, adapting the supporting arm to exert a spring force directed along the cabling, and providing the supporting device as an auxiliary arm with a second attachment which is arranged at the second arm.